

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 25, 26, 28-36 and 42-46 are now present in the application. Claims 25, 26, 28-36, 42, 44 and 45 have been amended. Claims 27 and 37-41 have been cancelled. Claims 25 and 44 are independent. Reconsideration of this application, as amended, is respectfully requested.

Drawings

It is gratefully appreciated that the Examiner has accepted the formal drawings.

Priority Under 35 U.S.C. §119

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. §119, and receipt of the certified priority document.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statements filed on April 13, 2006, and for providing Applicants with an initialed copy of the PTO-1449 forms filed therewith.

Rejections Under 35 U.S.C. § 101

Claims 25, 26, 28-36 and 42-46 stand rejected under 35 U.S.C. § 101 because they allegedly are directed to non-statutory subject matter. Applicants traverse the rejection as set forth herein.

The Examiner states that the claims 25-46 appear to no more than non-function descriptive language without any application; claims 39-41 recites a “web system” but are dependent upon a device, which is a mixing of statutory categories; claim 42, 43 and 45 is also non-statutory because the usefulness of the claims cannot be realized.

In response the Examiner’s rejections, Applicants canceled claims 39-41 and amended claims 25, 26, 28-36, 42, 44 and 45 to recite the present invention more specifically. Applicants respectfully submit that claims 25, 26, 28-36 and 42-46 are now directed to statutory subject matter and produce a useful, concrete and tangible result; thus overcoming the Examiner’s rejections.

Reconsideration and withdrawal of the rejection of claims 25, 26, 28-36 and 42-46 under 35 U.S.C. § 101 are respectfully requested.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 25, 26, 28-36 and 42-46 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

In view of the foregoing amendments, it is respectfully submitted that this rejection has been addressed.

Specifically, regarding claims 25 and 44, the Examiner asserts that the recitation of “based on a circuit diagram designed by a circuit design” was unclear. As the Examiner will note, Applicants have amended claims 25 and 44 to clearly recite the constitution of displaying design instruction information. Regarding claim 35, the Examiner asserts that the definition and function of the macro has not been explained and thus is unclear. Applicants have amended claim 35 to clarify the constitution of the macro by reciting the function of the macro in detail. Accordingly, all pending claims are now definite and clear.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are therefore respectfully requested.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

Claims 25, 26, 32, 36, 42 and 44-46 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Geppert, “IC Design on the World Wide Web”, (hereafter “Geppert”). Claims 33-35 and 43 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Geppert. Claims 28-31 stands rejected under 35 U.S.C. § 103 (a) as being unpatentable over Geppert in view of Kundert, “Power Supply Noise Reduction” (hereafter “Kundert”). These rejections are respectfully traversed.

Complete discussions of the Examiner’s rejections are set forth in the Office Action, and are not repeated herein.

Without conceding to the propriety of the Examiner's rejection, but merely to timely advance the prosecution of the application, as the Examiner will note, independent claim 25 has been amended to clearly define the present invention over the reference relied on by the Examiner.

In particular, independent claim 25 now recites a combination of elements including "means for reading a circuit diagram designed by the circuit design; means for storing design instruction information regarding the printed circuit board design and keywords, which are associated with said design instruction information and set corresponding to the type of items included in said circuit diagram; and *means for extracting keywords corresponding to the type of items included in the read circuit diagram and displaying design instruction information associated with the extracted keywords, when the circuit diagram is read by said reading means.*" Applicants respectfully submit that the combination of elements set forth in claim 25 is not disclosed or suggested by Geppert relied on by the Examiner.

Specifically, as set forth in amended claim 25, the design instruction information of the present invention is the information that supports printed circuit board design. It is showing design instruction contents which are provided by a circuit designer while designing a circuit diagram. It is understood that by automatically extracting the design instruction that the circuit designer gave while designing the circuit diagram from a design instruction exclusive DB 101 (Referring to Fig. 7 of the present invention), for example, workload and time taken for manually creating a design instruction can be significantly reduced.

On the contrary, however, Geppert is relevant to the introduction of web-based tools regarding designing ICs over the Internet. A careful review of Geppert indicates that Geppert merely mentions that it is a rising tide for engineers to turn to the Internet and work together through the World Wide Web, and Fig. 1 of Geppert asserted by the Examiner also merely shows universities are linking up to develop internet-capable tools and procedures for all phases of computer-aided design (CAD); however, there is nothing to do with the printed circuit board design instruction support device/method between a circuit design and a printed circuit board design as set forth in the present invention. Although Geppert shows that workers in remote areas can share tools or the like required in designing ICs on the Internet, it does not show description or suggestion of displaying design instruction information corresponding to a circuit diagram as recited in claim 25.

In addition, Geppert discloses a website of a company in which all of 40,000 pages or more dealing with technical information to be used (See Page 48, Column 3 of Geppert). However, it is noted that the website is used by users in order to obtain technical information, but does not automatically display technical information in which keywords corresponding to the type of items included in the circuit diagram are associated with design instruction information as set forth in claim 25. Therefore, Applicants respectfully submit that the present invention set forth in amended claim 25 is patently distinguishable over the teachings of Geppert.

With regard to the Examiner's reliance on Kundert, this reference has only been relied on for its teaching of the depend claims. Kundert also fails to disclose the above-mentioned features set forth in claim 25, and thus fails to cure the deficiencies of Geppert.

Since Geppert and Kundert fail to teach each and every claimed feature as recited in claim 25, Applicants respectfully submit that claim 25 clearly defines over the teachings of references relied on by the Examiner. Applicants respectfully submits that amended independent claim 44 also clearly defines the present invention over the prior art for the same reasons as claim 25.

In addition, claims 26, 28-36, 42, 43, 45 and 46 depend, either directly or indirectly, from independent claims 25 and 44, and are therefore allowable based on their respective dependence from independent claims 25 and 44, which are believed to be allowable, or due to the additional novel features set forth there in.

For example, regarding claim 26 which recites “said displaying means displays keywords corresponding to the type of items included in the read circuit diagram when the circuit diagram is read by said reading means,” it is noted that the keywords set forth in claim 26 are used in displaying the design instruction information corresponding to the type of items included in a read circuit diagram.

On the contrary, however, referring to page 50, Fig. 5 of Geppert, it shows that searching by keywords are provided in order to quickly obtain data of electronic parts that are necessary in designing a circuit substrate. The keywords of Geppert are used in searching the data of electronic parts. More specifically, the keywords of Geppert are input by users, and then the data of electronic parts related to the input keywords are therefore displayed, which is clearly different from the present invention in which the keywords are technology that associates items with the created design instruction information, and are used in order to automatically display information to be presented for the users. Therefore, the keywords shown in Geppert cannot be

comparable with the ones of present invention. For this additional reason, it is respectfully submitted that claim 26 patently defines over Geppert.

Regarding claim 32, it includes the recitation of “means for extracting items included in the circuit diagram read by said reading means; and means for associating items that were extracted by said extraction means with said design instruction information via said keywords, wherein said display means displays the items associated by said association means.” As can be seen in claim 32, items included in a read circuit diagram are displayed. These items are associated with design instruction information via keywords. Hence, according to the constitution of the present invention, by electronically associating the contents of design instruction with technology information, appropriate technology information can be quickly referred to and taken into consideration when designing a printed circuit board, designing based on theory can be performed even without an experience, and shortening of design and improvement and uniformization in design quality are made possible.

On the contrary, however, Geppert merely discloses a website of a company in which all of 40,000 pages or more dealing with technical information can be used. The purpose of using this website is to obtain technical information of parts that the users use. In short, Geppert does not give description or suggestion that technical information corresponding to a circuit diagram is displayed automatically and in an easily understandable manner visually by associating the items with the design instruction information as set forth in claim 32. Therefore, for this additional reason, claim 32 patently defines over Geppert.

Regarding claim 33, the Examiner asserts that claim 33 is rendered as being obvious by Geppert. Applicants respectfully disagree. Claim 33 now recites “said reading means reads a printed circuit board diagram designed by the printed circuit board design, said device comprising: means for selecting items or keywords displayed by said display means; and means for highlighting items on the printed circuit board diagram read by said reading means, which correspond to items selected by said selection means, when the items are selected by said selection means, and highlighting items associated with the keywords on said printed circuit board diagram read by said reading means, which corresponds to keywords selected by said selection means, when keywords are selected by said selection means.” Specifically, according to the constitution of the present invention, items of the same type to which the same design instruction information is associated can be highlighted at once, time and workload, which are required to confirm whether or not items of the same type are designed correctly on a printed circuit board based on the instruction information, can be shortened and lightened. In short, the present invention, unlike a constitution formed only by regular technology, in which important items or selected items are simply highlighted, has a special constitution that items of the same type to which the same design instruction information are associated are highlighted at once.

Further, the present invention is clearly different from the one shown in Geppert in which design data or arrangement data is simply shared and controlled, but instruction contents in designing are electronically associated with technical information, so that the above-described highlight that Geppert cannot obtain is made possible.

Therefore, for this additional reason, claim 33 is obvious over Geppert; it is respectfully submitted that one skilled in the art cannot achieve the present invention set forth in claim 33 in view of Geppert.

Regarding claim 36, on page 6 of outstanding Office Action, the Examiner asserts that page 47, top right, the recitation of “user authentication and strong data encryption can be used for added security” teaches claim 36. Applicants respectfully disagree and submit that the Examiner’s interpretation of the present invention is not appropriate. It is noted that claim 36 recites “accepting an authorization”, not “authentication” asserted by the Examiner. It can be understood from the entire description of the present invention that the “authorization” set forth in claim 36 means “approval” which is different from the recitation of “user authentication” in Geppert. Thus, Applicants respectfully submit that for this additional reason Geppert fails to anticipate claim 36.

Regarding claims 38-31, the Examiner asserts that Kundert cures the deficiencies of Geppert by disclosing damping resistances being items included in a circuit diagram and target ICs of the resistances based in the part attribute of the damping resistances and the wiring connection information of the damping resistances. Applicants respectfully disagree. Specifically, Kundert merely explains the constitution/function of damping resistances and bypass capacitors, and shows a technology for reducing electric power supply noise using the resistances and capacitors. However, the technology capable of extracting information regarding the damping resistance and the bypass capacitors from a circuit diagram as recited in claims 28-

31 has not been taught or suggested by Kundert. Therefore, for this addition reason, claims 28-31 are not made as being obvious by Geppert and Kundert, either taken alone or in combination.

In view of the above amendments to the claims and remarks, Applicant respectfully submits that claims 25, 26, 28-36 and 42-46 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

CONCLUSION

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By 

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